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PATENT APPLICATION
Attorney Docket: 11927/46002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: RIESS et al

Group Art Unit: 2819

Application No.: 09/899,852

Examiner: Not assigned

Filed: July 9, 2001

For: RELIABLE SYMBOLS AS A MEANS OF IMPROVING THE
PERFORMANCE OF INFORMATION TRANSMISSION SYSTEMS

INFORMATION DISCLOSURE STATEMENT

Director of the U.S. Patent and Trademark Office
Washington, D.C. 20231

Sir:

Pursuant to 37 CFR § 1.56, the attention of the Patent and Trademark Office is hereby directed to the reference(s) listed on the attached PTO-1449. Unless otherwise indicated herein, one copy of each reference is attached. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the reference(s) be made of record therein and appear among the "References Cited" on any patent to issue therefrom. The paragraphs marked below are applicable.

☒ 1. This Information Disclosure Statement is being filed (a) within three months of the U.S. filing date or the date of filing a CPA, OR (b) before the mailing date of a first Office Action on the merits in the present application. No certification or fee is required.

☐ 2. This Information Disclosure Statement is being filed with a Request for Continued Examination (RCE). No certification or fee is required.

☐ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.

☐ a. I hereby certify that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(1).

☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).

☐ c. Please debit Deposit Account No. 11-0600 in the amount of \$240.00 in payment of the fee under 37 CFR §1.17(p) to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached.

☐ 4. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Applicant(s) hereby petition(s) that the Information Disclosure Statement be considered. Please debit Deposit Account No. 11-0600 in the amount of \$130.00 in payment of the petition fee under 37 CFR §1.17(i)(1) to ensure consideration of the disclosed information. Two duplicate copies of this paper are attached.

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☐ b. I hereby certify that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 CFR §1.97(e)(2).

OPTIONAL INSERT PARAGRAPHS FOR INFORMATION DISCLOSURE
STATEMENT (Please delete non-applicable paragraphs).

☐ 5. Relevance of the non-English language reference(s) is discussed in the present specification.

☐ 6. The reference(s) was/were cited in a counterpart foreign application. An English language version of the foreign search report is attached for the Examiner's information.

☐ 7. A concise explanation of the relevance of the non-English language reference(s) appears in the Appendix attached hereto.

☐ 8. The Examiner's attention is directed to co-pending U.S. Patent Application No. _____, filed, which is directed to related technical subject matter. The identification of this U.S. Patent Application is not to be construed as a waiver of

secrecy as to that application now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited application and the art cited therein during examination of the present application.

☐ 9. This application is one of a series of related applications, identified in the attached Appendix, which are directed to related technical subject matter. The identification of those U.S. Patent Applications is not to be construed as a waiver of secrecy as to those applications now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited applications and the art cited therein during the examination.

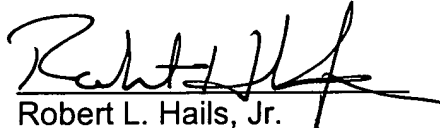
☐ 10. The reference(s) was/were cited by or submitted to the Office in parent application No. _____, filed _____, which is relied upon for an earlier filing date under 35 U.S.C. §120. Thus, copies of these references are not attached. 37 CFR §1.98(d).

☐ 11. English-language Abstracts of the non-English language references are attached hereto.

☐ 12. Other.

Respectfully submitted,

KENYON & KENYON


Robert L. Hails, Jr.
Registration No. 39,702

Date: 9/12/01

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 2

Complete if Known

Application Number	09/899,852
Filing Date	July 9, 2001
First Named Inventor	RIESS et al
Group Art Unit	2819
Examiner Name	Not assigned
Attorney Docket Number	11927/46002

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	
		Number	Kind Code ² (if known)			
		4,227,152		Godard et al	October 7, 1980	

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ₆
		Office ³	Number ⁴	Kind Code ⁵ (if known)				

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Jablon, Neil K., "Joint Blind Equalization, Carrier Recovery, and Timing Recovery for High-Order QAM Signal Constellations", <i>IEEE Transactions on Signal Processing</i> , pp. 1383-1397, Vol. 40, No. 6, June 1992	
		Johnson et al, "Blind Equalization Using the Constant Modulus Criterion: A Review", <i>Proceedings of the IEEE</i> , pp. 1927-1950, Vol. 86, No. 10, October 1998	
		Yang et al, "The Multimodulus Blind Equalization Algorithm", 1997 13 th Int'l Conference on Digital Signal Processing Proceedings, DSP 97", pp. DSP 97-127 through DSP 97-130, Volume 1 of 2, July 2-4, 1997, Santorini, Hellas (Greece)	
		Treichler et al, "Practical Blind Demodulators for High-Order QAM Signals", <i>Proceedings of the IEEE</i> , Special Issue on Blind Systems Identification and Estimation, edited by R. Liu and L. Tong, pp. 1907-1926, Vol. 86, No. 10, October 1998	
		Gertsman et al, "Symbol-by-Symbol MAP Demodulation of CPM and PSK Signals on Rayleigh Flat-Fading Channels", <i>IEEE Transactions on Communications</i> , pp. 788-799, Vol. 45, No. 7, July 1997	
		Benedetto et al, "A Soft-Input Soft-Output APP Module for Iterative Decoding of Concatenated Codes", <i>IEEE Communications Letters</i> , pp. 22-24, Vol. 1, No. 1, January 1997	
		Kenington, P.B., "Emerging Technologies for Software Radio", <i>Electronics Communication Engineering Journal</i> , pp. 69-83, Vol. 11, No. 2, April 1999	
		Porat et al, "Blind Equalization of Digital Communication Channels Using High-Order Moments", <i>IEEE Transactions on Signal Processing</i> , Vol. 39, No. 2, February 1991	

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Date
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Sheet 2

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Application Number	09/899,852
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First Named Inventor	RIESS et al
Group Art Unit	2819
Examiner Name	Not assigned
Attorney Docket Number	11927/46002

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Bahl et al, "Optimal Decoding of Linear Codes for Minimizing Symbol Error Rate", <i>IEEE Transactions on Information Theory</i> , pp. 284-287, Vol. IT-20, No. 2, March 1974	
		Sato, Yoichi, "A Method of Self-Recovering Equalization for Multilevel Amplitude-Modulation Systems", <i>IEEE Transactions on Communications</i> , Vol. COM-23, No. 6, June 1975	
		Viterbi et al, <i>Principals of Digital Communication and Coding</i> , Chapter 2, pp. 47-127, McGraw-Hill Book Company, 1979	
		Proakis, John G., <i>Digital Communications</i> , Chapters 5, 6, 10, 11, Third Edition, McGraw-Hill, Inc., 1983	

Examiner
Signature

Date
Considered

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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